

REMARKS

Summary of the Office Action

In the Office Action, claims 4, 7, 12, and 15 were rejected under 35 U.S.C. § 112, second paragraph as being indefinite.

Claim 7 stands rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter not described in the specification.

Claims 1, 3-9 and 11-16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,606,438 to *Margalit et al.* in view of U.S. Patent No. 5,260,1274 to *Nakazawa et al.* Applicant respectfully traverses these rejections for at least the following reasons.

Summary of the Response to the Office Action

Applicant amends claims 1, 7, and 9 and cancels claims 4 and 12 without prejudice or disclaimer. Claims 1, 3, 5-9, 11, and 13-17 are pending in this application.

All Subject Matter Complies With 35 U.S.C. § 112

The Office Action indicates that claim 7 was rejected under 35 U.S.C. § 112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to make and/or use the invention. This rejection is respectfully traversed.

The Office Action takes the position that the feature “between seven cp and approximately seventy cp” recited in claim 7 is not supported in the specification. Applicant hereby rewrites claim 7 to recite its previous language, “between several cp and approximately several ten cp.” The Office Action now acknowledges that the phrase “between several cp and approximately several ten cp” is understood broadly and is not

indefinite. Accordingly, the Applicant respectfully asserts that the amended recitation is allowable and the rejection of claim 7 under 35 U.S.C. § 112, first paragraph, should be withdrawn.

Claims 4 and 12 were rejected under 35 U.S.C. § 112, second paragraph as being indefinite. Applicant hereby cancels dependent claims 4 and 12 without prejudice or disclaimer. Subsequently, the rejection is now moot. Accordingly, the Applicant respectfully asserts that the rejection of claims 4 and 12 under 35 U.S.C. § 112, second paragraph, should be withdrawn.

Claims 7 and 15 were rejected under 35 U.S.C. § 112, second paragraph as being indefinite. Specifically, the Office Action inquires as to when the “viscosity coefficient” range is applicable. Applicant respectfully submits that the thermosetting resin “viscosity coefficient,” is measured before a thermoset operation is performed. Applicant believes this information to be well understood by those skilled in the art and adequately reflected in the record. Therefore, it is respectfully submitted that claims 7 and 15 are definite in accordance with the requirements of 35 U.S.C. § 112, second paragraph. Accordingly, it is respectfully requested that the rejections under 35 U.S.C. § 112, second paragraph, be withdrawn.

The Claims Define Allowable Subject Matter

Claims 1, 3-9, and 11-16 were rejected under 35 U.S.C. § 103(a) as being obvious over *Margalit et al.* in view of *Nakazawa et al.* Applicant respectfully traverses the rejections for the following reasons.

In regards to independent claims 1 and 9, Applicant respectfully asserts that neither *Margalit et al.* nor *Nakazawa et al.* teach or suggest “at least one transparent protective layer formed on an outer surface of the first substrate and the second substrate that is configured

such that it imparts a compressive stress to the outer surface of one of the first and second substrate,” as recited in claims 1 and 9.

Margalit et al. discloses a liquid crystal display (LCD) sandwich (30, 31), a layer of adhesive material (35) that extends continuously across a surface of the LCD sandwich, and a layer of rigid transparent material (*e.g.*, glass or acrylic) that is mounted facing the LCD sandwich and is bonded to the LCD sandwich by the layer of adhesive material. See the *Margalit et al.* Abstract. *Margalit et al.* does not disclose or teach at least the feature of a “protective layer formed on an outer surface . . . that is configured such that it imparts a compressive stress to the outer surface of one of the first and second substrate.”

Nakazawa et al. discloses a square substrate for use in the production of a color filter for a liquid crystal display (LCD). The substrate is placed with a surface extending horizontally and a viscous liquid (*e.g.*, acrylic resin) is dropped on the surface in a line along an edge portion of the surface. A squeeze rod is moved along the surface with a predetermined gap maintained between the squeeze rod and the surface to spread the viscous liquid over at least part of the surface, whereby a predetermined viscous liquid thickness is obtained. Thereafter, the substrate is spun in the plane of the surface thereof to disperse the viscous liquid uniformly by centrifugal force over the entire surface of the substrate, whereby a thin coating of the liquid with uniform thickness is formed on the surface of the substrate. See the *Nakazawa et al.* Abstract.

Nakazawa et al. does not disclose or teach at least the feature of a “transparent protective layer formed on an outer surface . . . that is configured such that it imparts a compressive stress to the outer surface of one of the first and second substrate” as recited in independent claims 1 and 9. Rather, *Nakazawa et al.* discloses a method and apparatus for

obtaining a colored filter made of a resin layer. See the *Nakazawa et al.* specification at column 2, lines 15-19 and column 3, lines 24-259.

Neither *Margalit et al.* nor *Nakazawa et al.* disclose, teach, or suggest, whether alone or in combination, at least the “transparent protective layer formed on an outer surface of the first substrate and the second substrate that is configured such that it imparts a compressive stress to the outer surface of one of the first and second substrate” feature recited in claims 1 and 9. Therefore, since claims 3, 5-8, 11, and 13-16 depend from and respectively incorporate all the features of independent claims 1 and 9, claims 3, 5-8, 11, and 13-16 are also not obvious over *Margalit et al.* in view of *Nakazawa et al.* at least for the above reasons for which claims 1 and 9 are not obvious. Accordingly, it is respectfully requested that the rejections of claims 1, 3, 5-9, 11, and 13-16 under U.S.C. § 103(a) as being obvious over *Margalit et al.* in view of *Nakazawa et al.*, be withdrawn.

Applicant respectfully submits that the Office Action has not established a *prima facie* case of obviousness and therefore all rejections under 35 U.S.C. § 103(a) should be withdrawn. To establish a *prima facie* case of obviousness, three basic criteria must be met (see MPEP §§ 2142-2143). First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill the art, to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the prior art references must teach or suggest all the claim limitations.

As demonstrated above, the Office Action has not established a *prima facie* case of obviousness at least because neither *Margalit et al.* nor *Nakazawa et al.* alone or in combination teach or suggest all the recited features of independent claims 1 and 9. Namely, neither *Margalit et al.* nor *Nakazawa et al.* teach or suggest at least a “transparent protective

layer formed on an outer surface . . . that is configured such that it imparts a compressive stress to the outer surface of one of the first and second substrate.” Therefore, Applicant respectfully asserts that the rejection under 35 U.S.C. § 103(a) should be withdrawn. Additionally, it is further respectfully submitted that dependent claims 3, 5-8, 11, and 13-16 are also allowable insofar as they recite the patentable combinations of features recited in independent claims 1 and 9, as well as reciting additional features that further distinguish over the applied art.

CONCLUSION


Applicant respectfully submits that all pending claims are now in condition for allowance. An early notice to this effect is earnestly solicited. Should there be any questions regarding the application, the Examiner is invited to contact the undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested, and the fee should also be charged to our Deposit Account.

Attached hereto is a marked-up version of the changes made to the claims by the current Amendment. The attached page is captioned "**VERSIONS WITH MARKINGS TO SHOW CHANGES MADE.**"

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN CLAIMS:

Claims 1 and 9 have been amended as follows:

1. (Twice Amended) A glass substrate of a liquid crystal display device, comprising:
a first substrate and a second substrate; and
at least one transparent protective layer formed on an outer surface of the first
substrate and the second substrate **that is configured such that it imparts a compressive
stress to the outer surface of one of the first and second substrate.**

7. (Twice Amended) The glass substrate according to claim 6, wherein the viscosity
coefficient of the thermosetting resin is between approximately ~~{seven}~~ **several** cp and
approximately ~~{seventy}~~ **several ten** cp.

9. (Twice Amended) A liquid crystal display device, comprising:
a first substrate and a second substrate;
at least one transparent protective layer formed on an outer surface of the first
substrate and the second substrate **that is configured such that it imparts a compressive
stress to the outer surface of one of the first and second substrate;**

a transparent electrode formed on an inner surface of the first substrate or the second
substrate;

an alignment layer formed on the transparent electrode; and

a liquid crystal layer between the first substrate and the second substrate.